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Pierre-Aime Lair

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tion. 5. When the molecularæ of caloric are accumulated in that body, they are thrown off from it by the force of repulsion; and from this results the sublime harmony of attraction and repulsion, the only cause of the equilibrium of the universe.

[To be continued.]

VII. *On the Combustion of the Human Body, produced by the long and immoderate Use of Spirituous Liquors.* By PIERRE-AIME LAIR*.

IN natural as well as civil history there are facts presented to the meditation of the observer, which, though confirmed by the most convincing testimony, seem on the first view to be destitute of probability. Of this kind is that of people consumed by coming into contact with common fire, and of their bodies being reduced to ashes. How can we conceive that fire, in certain circumstances, can exercise so powerful an action on the human body as to produce this effect? One might be induced to give less faith to these instances of combustion as they seem to be rare. I confess that at first they appeared to me worthy of very little credit, but they are presented to the public as true by men whose veracity seems unquestionable. Bianchini, Maffei, Rolli, Le Cat, Vicq-d'Azyr, and several men distinguished by their learning, have given certain testimony of the facts. Besides, is it more surprising to experience such incineration than to void saccharine urine, or to see the bones softened to such a degree as to be reduced to the state of a jelly? The effects of this combustion are certainly not more wonderful than those of the bones softened, or of the diabetes mellitus. This morbid disposition, therefore, would be one more scourge to afflict humanity; but in physics, facts being always preferable to reasoning, I shall here collect those which appear to me to bear the impression of truth; and, lest I should alter the sense, I shall quote them such as they are given in the works from which I have extracted them.

We read in the Transactions of Copenhagen, that in 1692

* From the *Journal de Physique*, Janvier, year 2.

a woman of the lower class, who for three years had used spirituous liquors to such excess that she would take no other nourishment, having sat down one evening on a straw chair to sleep, was consumed in the night-time, so that next morning no part of her was found but the skull and the extreme joints of the fingers; all the rest of her body, says Jacobæus, was reduced to ashes.

The following extract of the memoir of Bianchini is taken from the Annual Register for 1763:—The Countess Cornelia Bandi, of the town of Cesena, aged 62, enjoyed a good state of health. One evening, having experienced a sort of drowsiness, she retired to bed, and her maid remained with her till she fell asleep. Next morning, when the girl entered to awaken her mistress, she found nothing but the remains of her body in the most horrid condition. At the distance of four feet from the bed was a heap of ashes, in which could be distinguished the legs and arms untouched. Between the legs lay the head, the brain of which, together with half the posterior part of the cranium, and the whole chin, had been consumed: three fingers were found in the state of a coal; the rest of the body was reduced to ashes, which, when touched, left on the fingers a fat, foetid moisture. A small lamp which stood on the floor was covered with ashes, and contained no oil; the tallow of two candles was melted on a table, but the wicks still remained, and the feet of the candlesticks were covered with a certain moisture. The bed was not damaged; the bed-clothes and coverlid were raised up and thrown on one side, as is the case when a person gets up. The furniture and tapestry were covered with a moist kind of foot of the colour of ashes, which had penetrated into the drawers and dirtied the linen. This foot having been conveyed to a neighbouring kitchen, adhered to the walls and the utensils. A piece of bread in the cupboard was covered with it, and no dog would touch it. The infectious odour had been communicated to other apartments. The Annual Register states, that the Countess of Cesena was accustomed to bathe all her body in camphorated spirit of wine. Bianchini caused the details of this deplorable event to be published at the time when it took place, and no one contradicted

tradiçted them. It was attested also by Scipio Maffei, a learned cotemporary of Bianchini, who was far from being credulous; and, in the last place, this surprizing fact was confirmed to the Royal Society of London by Paul Rolli. The Annual Register mentions also two other facts of the same kind which occurred in England, one at Southampton and the other at Coventry.

An instance of the like kind is preserved in the same work * in a letter of Mr. Wilmer, surgeon:—"Mary Clues, aged 50, was much addicted to intoxication. Her propensity to this vice had increased after the death of her husband, which happened a year and a half before. For about a year, scarcely a day had passed in the course of which she did not drink at least half a pint of rum or aniseed-water. Her health gradually declined, and about the beginning of February she was attacked by the jaundice and confined to her bed. Though she was incapable of much action, and not in a condition to work, she still continued her old habit of drinking every day and smoking a pipe of tobacco. The bed in which she lay stood parallel to the chimney of the apartment, and at the distance from it of about three feet. On Saturday morning, the 1st of March, she fell on the floor; and her extreme weakness having prevented her from getting up, she remained in that state till some one entered and put her to bed. The following night she wished to be left alone. A woman quitted her at half after eleven, and, according to custom, shut the door and locked it. She had put on the fire two large pieces of coal, and placed a light in a candlestick on a chair at the head of her bed. At half after five in the morning a smoke was seen issuing through the window, and the door being speedily broke open, some flames which were in the room were soon extinguished. Between the bed and the chimney were found the remains of the unfortunate Clues: one leg and a thigh were still entire; but there remained nothing of the skin, the muscles, and the viscera. The bones of the cranium, the breast, the spine, and the upper extremities, were entirely calcined, and covered with a whitish efflorescence. The people were much

* Annual Register for 1773, p. 73.

surprised

ſurprized that the furniture had ſuſtained ſo little injury. The ſide of the bed which was next to the chimney had ſuffered the moſt; the wood of it was ſlightly burnt; but the feather-bed, the clothes, and covering, were ſafe. I entered the apartment about two hours after it had been opened, and obſerved that the walls and every thing in it were blackened; that it was filled with a very diſagreeable vapour; but that nothing except the body exhibited any ſtrong traces of fire.”

This inſtance has great ſimilarity to that related by Vicq-d’Azyr in the *Encyclopédie Méthodique*, under the head, Pathologic Anatomy of Man. A woman, about fifty years of age, who indulged to exceſs in ſpirituous liquors, and got drunk every day before ſhe went to bed, was found entirely burnt, and reduced to aſhes. Some of the oſſeous parts only were left, but the furniture of the apartment had ſuffered very little damage. Vicq-d’Azyr, inſtead of diſbelieving this phenomenon, adds, that there have been many other inſtances of the like kind.

We find alſo a circumſtance of this kind in a work entitled, *Acta Medica et philoſophica Hafnienſia*; and in the work of Henry Bohanſer, entitled, *Le nouveau phoſphore enflammé*. A woman at Paris, who had been accuſtomed, for three years, to drink ſpirit of wine to ſuch a degree that ſhe uſed no other liquor, was one day found entirely reduced to aſhes, except the ſkull and extremities of the fingers.

The Tranſactions of the Royal Society of London preſent alſo an inſtance of human combuſtion no leſs extraordinary: It was mentioned at the time it happened in all the journals; it was then atteſted by a great number of eye-witneſſes, and became the ſubject of many learned diſcuſſions. Three accounts of this event, by different authors, all nearly coincident. The fact is related as follows:—“ Grace Pitt, the wife of a fiſhmonger of the pariſh of St. Clement, Ipſwich, aged about ſixty, had contracted a habit, which ſhe continued for ſeveral years, of coming down every night from her bed-room, half dreſſed, to ſmoke a pipe. On the night of the 9th of April 1744, ſhe got up from bed as uſual. Her daughter, who ſlept with her, did not perceive ſhe was abſent till next morning when ſhe awoke, ſoon after which ſhe put on her

clothes, and going down to the kitchen, found her mother stretched out on the right side, with her head near the grate; the body extended on the hearth, with the legs on the floor, which was of deal, having the appearance of a log of wood, consumed by a fire without apparent flame. On beholding this spectacle, the girl ran in great haste and poured over her mother's body some water contained in two large vessels in order to extinguish the fire; while the foetid odour and smoke which exhaled from the body almost suffocated some of the neighbours who had hastened to the girl's assistance. The trunk was in some measure incinerated, and resembled a heap of coals covered with white ashes. The head, the arms, the legs, and the thighs, had also participated in the burning. This woman, it is said, had drunk a large quantity of spirituous liquor in consequence of being overjoyed to hear that one of her daughters had returned from Gibraltar. There was no fire in the grate, and the candle had burnt entirely out in the socket of the candlestick, which was close to her. Besides, there were found near the consumed body the clothes of a child and a paper screen, which had sustained no injury by the fire. The dress of this woman consisted of a cotton gown.

Le Cat, in a memoir on spontaneous burning, mentions several other instances of combustion of the human body. "Having," says he, "spent several months at Rheims in the years 1724 and 1725, I lodged at the house of Sieur Millet, whose wife got intoxicated every day. The domestic economy of the family was managed by a pretty young girl, which I must not omit to remark, in order that all the circumstances which accompanied the fact I am about to relate, may be better understood. This woman was found consumed on the 20th of February 1725, at the distance of a foot and a half from the hearth in her kitchen. A part of the head only, with a portion of the lower extremities and a few of the vertebrae, had escaped combustion. A foot and a half of the flooring under the body had been consumed, but a kneading-trough and a powdering-tub, which were very near the body, had sustained no injury. M. Chretien, a surgeon, examined the remains of the body with every
juridical

juridical formality. Jean Millet, the husband, being interrogated by the judges who instituted an inquiry into the affair, declared, that about eight in the evening on the 19th of February he had retired to rest with his wife, who not being able to sleep, had gone into the kitchen, where he thought she was warming herself; that, having fallen asleep, he was wakened about two o'clock by an infectious odour, and that, having run to the kitchen, he found the remains of his wife in the state described in the report of the physicians and surgeons. The judges having no suspicion of the real cause of this event, prosecuted the affair with the utmost diligence. It was very unfortunate for Millet that he had a handsome servant-maid, for neither his probity nor innocence was able to save him from the suspicion of having got rid of his wife by a concerted plot, and of having arranged the rest of the circumstance in such a manner as to give it the appearance of an accident. He experienced, therefore, the whole severity of the law; and though, by an appeal to a superior and very enlightened court, which discovered the cause of the combustion, he came off victorious, he suffered so much from uneasiness of mind, that he was obliged to pass the remainder of his melancholy days in an hospital."

Le Cat relates another instance, which has a most perfect resemblance to the preceding:—"M. Boinneau, curé of Pierguer, near Dol," says he, "wrote to me the following letter, dated February 22, 1749: Allow me to communicate to you a fact which took place here about a fortnight ago. Madame de Boifeon, 80 years of age, exceedingly meagre, who had drunk nothing but spirits for several years, was sitting in her elbow-chair before the fire while her waiting-maid went out of the room for a few moments. On her return, seeing her mistress on fire, she immediately gave an alarm, and some people having come to her assistance, one of them endeavoured to extinguish the flames with his hand, but they adhered to it as if it had been dipped in brandy or oil on fire. Water was brought and thrown on the lady in abundance, yet the fire appeared more violent, and was not extinguished till the whole flesh had been consumed. Her skeleton, exceedingly black, remained entire in the chair,

which was only a little scorched; one leg only, and the two hands, detached themselves from the rest of the bones. It is not known whether her clothes had caught fire by approaching the grate. The lady was in the same place in which she sat every day; there was no extraordinary fire, and she had not fallen. What makes me suspect that the use of spirits might have produced this effect is, that I have been assured, that at the gate of Dinan an accident of the like kind happened to another woman under similar circumstances.”

To these instances, which I have multiplied to strengthen the evidence, I shall add two other facts, of the same kind, published in the *Journal de Médecine* *. The first took place at Aix, in Provence, and is thus related by Muraire, a surgeon:—“In the month of February 1779, Mary Jauffret, widow of Nicholas Gravier, shoemaker, of a small size, exceedingly corpulent, and addicted to drinking, having been burnt in her apartment, M. Rocas, my colleague, who was commissioned to make a report respecting the remains of her body, found only a mass of ashes, and a few bones, calcined in such a manner that on the least pressure they were reduced to dust. The bones of the cranium, one hand, and a foot, had in part escaped the action of the fire. Near these remains stood a table untouched, and under the table a small wooden stove, the grating of which, having been long burnt, afforded an aperture, through which, it is probable, the fire that occasioned the melancholy accident had been communicated: one chair, which stood too near the flames, had the seat and fore-feet burnt. In other respects, there was no appearance of fire either in the chimney or the apartment; so that, except the fore-part of the chair, it appears to me that no other combustible matter contributed to this speedy incineration, which was effected in the space of seven or eight hours.”

The other instance, mentioned in the *Journal de Médecine* †, took place at Caen, and is thus related by Merille, a surgeon of that city, still alive:—“Being requested, on the 3d of June 1782, by the king’s officers, to draw up a report of the state in which I found Mademoiselle Thuars, who

* Vol. LIX. p. 440.

† Vol. LIX. p. 140.

was said to have been burnt, I made the following observations:—The body lay with the crown of the head resting against one of the andirons, at the distance of eighteen inches from the fire; the remainder of the body was placed obliquely before the chimney, the whole being nothing but a mass of ashes. Even the most solid bones had lost their form and consistence; none of them could be distinguished except the coronal, the two parietal bones, the two lombar vertebræ, a portion of the tibia, and a part of the omoplate; and these, even, were so calcined, that they became dust by the least pressure. The right foot was found entire, and scorched at its upper junction; the left was more burnt. The day had been cold, but there was nothing in the grate except two or three bits of wood, about an inch in diameter, burnt in the middle. None of the furniture in the apartment was damaged. The chair on which Mademoiselle Thuars had been sitting, was found at the distance of a foot from her, and absolutely untouched. I must here observe, that this lady was exceedingly corpulent; that she was above sixty years of age, and much addicted to spirituous liquors; that the day even of her death she had drunk three bottles of wine and about a bottle of brandy; and that the consumption of the body had taken place in less than seven hours, though, according to appearance, nothing around the body was burnt but the clothes.”

The town of Caen affords several other instances of the same kind. I have been told by many people, and particularly a physician of Argentan, named Bouffet, author of an Essay on Intermittent Fevers, that a woman of the lower class, who lived at *Placc Villars*, and who was known to be much addicted to strong liquor, had been found in her house burnt. The extremities of her body only were spared, but the furniture was very little damaged.

A like unfortunate accident happened also at Caen to another old woman addicted to drinking. I was assured by those who told me the fact, that the flames which proceeded from the body could not be extinguished by water; but I think it needless to relate the particulars of this and of another similar event which took place in the same town, be-

cause, as they were not attested by a *proces-verbal*, and not having been communicated by professional men, they do not inspire the same confidence.

This collection of instances is supported, therefore, by all those authentic proofs which can be required to form human testimony; for, while we admit the prudent doubt of Descartes, we ought to reject the universal doubt of the Pyrrhonists. The multiplicity and uniformity even of these facts, which occurred in different places, and were attested by so many enlightened men, carry with them conviction; they have such a relation to each other that we are inclined to ascribe them to the same cause.

1. The persons who experienced the effects of this combustion had for a long time made an immoderate use of spirituous liquors.

2. The combustion took place only in women.

3. These women were far advanced in life.

4. Their bodies did not take fire spontaneously, but were burnt by accident.

5. The extremities, such as the feet and the hands, were generally spared by the fire.

6. Water sometimes, instead of extinguishing the flames which proceeded from the parts on fire, gave them more activity.

7. The fire did very little damage, and often even spared the combustible objects which were in contact with the human body at the moment when it was burning.

8. The combustion of these bodies left as a residuum fat foetid ashes, with an unctuous, stinking, and very penetrating foot.

Let us now enter into an examination of these eight general observations.

The first idea which occurs on reading the numerous instances of human combustion above related is, that those who fell victims to those fatal accidents were almost all addicted to spirituous liquors. The woman mentioned in the Transactions of Copenhagen had for three years made such an immoderate use of them that she would take no other nourishment. Mary Clues, for a year before the accident happened, had scarcely been a single day without drinking half a pint

of rum or of aniseed-water. The wife of Millet had been continually intoxicated; Madam de Boifeon for several years had drunk nothing but spirits; Mary Jauffret was much addicted to drinking; and Mademoiselle Thuars, and the other women of Caen, were equally fond of strong liquors.

Such excesses, in regard to the use of spirituous liquors, must have had a powerful action on the bodies of the persons to whom I allude. All their fluids and solids must have experienced its fatal influence; for the property of the absorbing vessels, which is so active in the human body, seems on this occasion to have acted a distinguished part. It has been observed that the urine of great drinkers is generally aqueous and limpid. It appears, that in drunkards who make an immoderate use of spirituous liquors, the aqueous part of their drink is discharged by the urinary passage, while the alcoholic, almost like the volatile part of aromatic substances, not being subjected to an entire decomposition, is absorbed into every part of their bodies.

I shall now proceed to the second general observation, that the combustion took place only in women.

I will not pretend to assert that men are not liable to combustion in the same manner, but I have never yet been able to find one well certified instance of such an event; and as we cannot proceed with any certainty but on the authority of facts, I think this singularity so surprising as to give rise to a few reflections. Perhaps when the cause is examined, it will appear perfectly natural. The female body is in general more delicate than that of the other sex. The system of their solids is more relaxed; their fibres are more fragile and of a weaker structure, and therefore their texture more easily hurt. Their mode of life also contributes to increase the weakness of their organization. Women, abandoned in general to a sedentary life, charged with the care of the internal domestic economy, and often shut up in close apartments, where they are condemned to spend whole days without taking any exercise, are more subject than men to become corpulent. The texture of the soft parts in female bodies being more spongy, absorption ought to be freer; and as their
whole

whole bodies imbibe spirituous liquors with more ease, they ought to experience more readily the impresson of fire. Hence that combustion, the melancholy instances of which seem to be furnished by women alone; and it is owing merely to the want of a certain concurrence of circumstances and of physical causes, that these events, though less rare than is supposed, do not become more common.

The second general observation serves to explain the third; I mean, that the combustion took place only in women far advanced in life. The Countess of Cesena was sixty-two years of age; Mary Clues, fifty-two; Grace Pitt, sixty; Madame de Boifeon, eighty; and Mademoiselle Thuars more than sixty. These examples prove that combustion is more frequent among old women. Young persons, distracted by other passions, are not much addicted to drinking; but when love, departing along with youth, leaves a vacuum in the mind, if its place be not supplied by ambition or interest, a taste for gaming, or religious fervor, it generally falls a prey to intoxication. This passion still increases as the others diminish, especially in women, who can indulge it without restraint. Wilmer, therefore, observes, "that the propensity of Mary Clues to this vice had always increased after the death of her husband, which happened about a year before:" almost all the other women of whom I have spoken, being equally unconfined in regard to their actions, could gratify their attachment to spirituous liquors without opposition.

It may have been observed that the obesity of women, as they advance in life, renders them more sedentary; and if, as has been remarked by Baumes*, a sedentary life overcharges the body with hydrogen, this effect must be still more sensible among old women. Dancing and walking, which form salutary recreation for young persons, are at a certain age interdicted as much by nature as by prejudice. It needs therefore excite no astonishment that old women, who are in general more corpulent and more addicted to drinking, and who are often motionless like inanimate

* Essai du Système Chimique de la Science de l'Homme.

masses, during the moment of intoxication, should experience the effects of combustion.

Perhaps we have no occasion to go very far to search for the cause of these combustions. The fire of the wooden stove, the chimney, or of the candle, might have been communicated to the clothes, and might have in this manner burnt the persons above mentioned, on account of the peculiar disposition of their bodies. Maffei observes that the Countess of Cesena was accustomed to bathe her whole body with spirit of wine. The vicinity of the candle and lamp, which were found near the remains of her body, occasioned, without doubt, the combustion. This accident reminds us of that which happened to Charles II. king of Navarre. This prince, being addicted to drunkenness and excesses of every kind, had caused himself to be wrapped up in cloths dipped in spirits, in order to revive the natural heat of his body which had been weakened by debauchery; but the cloths caught fire while his attendants were fastening them, and he perished a victim to his imprudence.

Besides accidental combustion, it remains for us to examine whether spontaneous combustion of the human body can take place, as asserted by Le Cat. Spontaneous combustion is the burning of the human body without the contact of any substance in a state of ignition. Nature, indeed, affords several instances of spontaneous combustion in the mineral and vegetable kingdoms. The decomposition of pyrites, and the subterranean processes which are carried on in volcanoes, afford proofs of it. Coal-mines may readily take fire spontaneously; and this has been found to be the case with heaps of coals deposited in close places. It is by a fermentation of this kind that dunghills sometimes become hot, and take fire. This may serve also to explain why trusses of hay, carried home during moist weather, and piled up on each other, sometimes take fire. But, can spontaneous combustion take place in the human body? If some authors are to be credited*, very violent combustion may be produced in our bodies by nature and by artificial processes. Sturmius † says that in the northern countries flames often burst from

* German Ephemerides, Observ. 77. † Ibid. Tenth year, p. 55.
the

the stomach of persons in a state of intoxication. Three noblemen of Courland having laid a bet which of them could drink most spirits, two of them died in consequence of suffocation by the flames which issued with great violence from their stomachs. We are told by Thomas Bartholin *, on the authority of Vorstius, that a soldier, who had drunk two glasses of spirits, died after an eruption of flames from his mouth. In his third century Bartholin mentions another accident of the same kind after a drinking-match of strong liquor.

It now remains to decide, from these instances, respecting the accidental or spontaneous causes which produce combustion. Nature, by assuming a thousand different forms, seems at first as if desirous to elude our observation; but, on mature reflection, if it be found easy to prove accidental combustion, spontaneous combustion appears altogether improbable; for, even admitting the instances of people suffocated by flames which issued from their mouths, this is still far from the combustion of the whole body. There is a great difference between this semi-combustion and spontaneous combustion so complete as to reduce the body to ashes, as in the cases above mentioned. As the human body has never been seen to experience total combustion, these assertions seem rather the productions of a fervid imagination than of real observation; and it too often happens that Nature in her mode of action does not adopt our manner of seeing.

I shall not extend further these observations on the combustion of the human body, as I flatter myself that after this examination every person must be struck with the relation which exists between the cause of this phenomenon and the effects that ensue. A system embellished with imaginary charms is often seducing, but it never presents a perfect whole. We have seen facts justify reasoning, and reasoning serve afterwards to explain facts. The combustion of the human body, which on the first view appears to have in it something of the marvellous, when explained, exhibits nothing but the utmost simplicity: so true it is, that the wonderful is often produced by effects which, as they rarely strike

* First century.

our eyes, permit our minds so much the less to discover their real cause.

Some people, however, may ascribe to the wickedness of mankind what we ascribe to accident. It may be said, that assassins, after putting to death their unfortunate victims, rubbed over their bodies with combustible substances, by which they were consumed. But even if such an idea should ever be conceived, it would be impossible to carry it into execution. Formerly, when criminals were condemned to the flames, what a quantity of combustible substances was necessary to burn their bodies! A baker's boy, named Renaud, being condemned to be burnt a few years ago at Caen, two large cart-loads of faggots were required to consume the body, and at the end of more than ten hours some remains of the bones were still to be seen. What proves that the combustion in the before-mentioned instances was not artificial is, that people often arrived at the moment when it had taken place, and that the body was found in its natural state. People entered the house of Madame Boifeon at the time when her body was on fire, and all the neighbours saw it. Besides, the people of whom I have spoken were almost all of the lowest class, and not much calculated to give rise to the commission of such a crime. The woman mentioned in the Transactions of Copenhagen was of the poorest condition; Grace Pitt was the wife of a fishmonger; Mary Jauffret that of a shoemaker; and two other women, who resided at Caen, belonged to the lowest order of society. It is incontestible, then, that in the instances I have adduced the combustion was always accidental and never intentional.

It may be seen that a knowledge of the causes of this phenomenon is no less interesting to criminal justice than to natural history, for unjust suspicions may sometimes fall on an innocent man. Who will not shudder on recollecting the case of the unfortunate inhabitant of Rheims, who, after having lost his wife by the effect of combustion, was in danger of perishing himself on the scaffold, condemned unjustly by an ignorant tribunal!

I shall consider myself happy if this picture of the fatal effects of intoxication makes an impression on those addicted

to this vice, and particularly on women, who most frequently become the victims of it. Perhaps the frightful details of so horrid an evil as that of combustion will reclaim drunkards from this horrid practice. Plutarch relates, that at Sparta children were deterred from drunkenness by exhibiting to them the spectacle of intoxicated slaves, who, by their hideous contortions, filled the minds of these young spectators with so much contempt that they never afterwards got drunk. This state of drunkenness, however, was only transitory. How much more horrid it appears in those unfortunate victims consumed by the flames and reduced to ashes! May men never forget that the vine sometimes produces very bitter fruit—disease, pain, repentance, and death!

VIII. *Meteorological Axioms, by L. COTTE; or the general Result of his own and foreign Meteorological Observations during the course of Thirty Years**.

OUR meteorological observations are as old as the establishment of the Academy of Sciences in the year 1666, and have never yet been interrupted. The most celebrated academicians, such as a Sidileau, a de la Hire, a Maraldi, a Cassini, a Fouchy, a Chappe, &c. have contributed towards them; and several members, such as Morin, Duhamel, Malovin, Messier, &c. paid attention to the same object without making themselves much known. The correspondents of the Academy also frequently communicated to it their meteorological observations. All the learned societies in Europe comprehend meteorology in the list of their labours, and particularly the Royal Society of London, the Academies of Berlin, Stockholm, Petersburg, &c. but, above all, the Medical Societies at Paris and the Hague, and the Meteorologic Society at Manheim. These three learned bodies have therefore the most extensive correspondence.

I have communicated to the public the result of the observations made by all these societies as well as of my own

* From *Nues Journal der Physik*, by Professor Gren, Vol. III. part 5. during